

## **PROPOSED RULEMAKING SHADING LEGEND**

- \* Shaded text - Rule sections or subsections not proposed for revision. This text is only for reference.
- \* Unshaded Text - Rule sections or subsections that are proposed for revision.

## 10 CSR 10-6.350 Emission Limitation and Emissions Trading of Oxides of Nitrogen

### (1) Applicability.

- (A) This rule applies to any fossil fuel-fired electric generating unit that serves a generator with a nameplate capacity of greater than twenty-five megawatts (25MW).
- (B) Exemptions.
  - 1. Any unit under subsection (1)(A) of this rule which demonstrates, using the emission estimation methods outlined in paragraph (5)(E)1. of this rule, that the unit's mass NO<sub>x</sub> emissions are twenty-five (25) tons or less during the control period is exempt from the requirements of this rule.
  - 2. The provisions of section (3) of this rule shall not apply to any emergency standby generators, internal combustion engines and peaking combustion turbine units demonstrated to operate less than four hundred (400) hours per control period averaged over the three (3) most recent years of operation, which have installed and maintained in proper operation a nonresettable engine hour meter.
- (C) Loss of Exemption. If the exemption limit in paragraph (1)(B)1. or (1)(B)2. of this rule is exceeded, the exemption shall not apply and the owner or operator must notify the staff director or designee within thirty (30) days. If the owner or operator can demonstrate to the staff director or designee that the exemption limit was exceeded due to emergency operations or uncontrollable circumstances, the exemption in paragraph (1)(B)1. or (1)(B)2. of this rule shall apply.
- (D) Compliance with this rule shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions of the Air Conservation Law and rules or any other requirements under local, state or federal law. Specifically, compliance with this rule shall not violate the permit conditions previously established under 10 CSR 10-6.060 or 10 CSR 10-6.065.
- (E) **Affected sources in the counties of Bollinger, Butler, Cape Girardeau, Carter, Clark, Crawford, Dent, Dunklin, Franklin, Gasconade, Iron, Jefferson, Lewis, Lincoln, Madison, Marion, Mississippi, Montgomery, New Madrid, Oregon, Pemiscot, Perry, Pike, Ralls, Reynolds, Ripley, St. Charles, St. Francois, St. Louis, Ste. Genevieve, Scott, Shannon, Stoddard, Warren, Washington and Wayne counties and the City of St. Louis have the option of whether or not to participate in the state-wide NO<sub>x</sub> rule, 10 CSR 10-6.350, once the NO<sub>x</sub> Budget Trading Program, 10 CSR 10-6.360, is implemented, provided that the emission rate of each unit does not exceed 0.25 or 0.18 lb/mmbtu, whichever is applicable, taking in consideration emission allowances from Missouri sources.**
- (F) **The requirements of sections (3), (4), and (5) of this rule will cease to apply upon the latter of the implementation date found in Missouri rule 10 CSR 10-6.364 or May 1, 2009.**

### (2) Definitions.

- (A) Definitions of certain terms in this rule, other than those specified in this rule section, may be found in 10 CSR 10-6.020.

- (B) Account certificate of representation—The completed and signed submission for certifying the designation of a NO<sub>x</sub> authorized account representative for an affected unit or a group of identified affected units who is authorized to represent the owners or operators of such unit or units and of the affected units at such source or sources with regard to matters under the NO<sub>x</sub> trading program.
- (C) Account number—The identification number given to each NO<sub>x</sub> trading program account.
- (D) Automated data acquisition and handling system—That component of the Continuous Emissions Monitoring System, or other emissions monitoring system approved for use by the department, designed to interpret and convert individual output signals from pollutant concentration monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required in this rule.
- (E) Average emission rate—The simple average of the hourly NO<sub>x</sub> emission rate as recorded by monitoring systems approved in section (5) of this rule.
- (F) Boiler—An enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.
- (G) Combined cycle system—A system comprised of one or more combustion turbines, heat recovery steam generators, and steam turbines configured to improve overall efficiency of electricity generation or steam production.
- (H) Combustion turbine—An enclosed fossil or other fuel-fired device that is comprised of a compressor, a combustor, and a turbine, and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine.
- (I) Common stack—A single flue through which emissions from two or more NO<sub>x</sub> units are exhausted.
- (J) Compliance account—A NO<sub>x</sub> allowance tracking system account, established for an affected unit, in which the NO<sub>x</sub> allowance allocations for the unit are initially recorded and in which are held NO<sub>x</sub> allowances available for use by the unit for a control period for the purpose of meeting the unit's NO<sub>x</sub> emission limitation.
- (K) Continuous emissions monitoring system (CEMS)—The equipment required by this rule to sample, analyze, measure, and provide, by readings taken at least once every fifteen (15) minutes of the measured parameters, a permanent record of NO<sub>x</sub> emissions, expressed in tons per hour for NO<sub>x</sub>.
- (L) Control period—The period beginning May 1 of a calendar year and ending on September 30 of the same calendar year.
- (M) Cyclone EGU—An electric generating unit (EGU) with a fossil fuel-fired boiler consisting of one or more horizontal cylindrical barrels that utilize tangentially applied air to produce a swirling combustion pattern of coal and air.
- (N) Early reduction credit (ERC)—NO<sub>x</sub> emission reductions in the years 2000, 2001, 2002 and 2003 that are below the limits specified in subsection (3)(A) of this rule. ERCs will only be available for use during the years of 2004 and 2005. When calculating ERCs or performing calculations involving ERCs, ERCs shall always be rounded down to the nearest ton.

- (O) Electric generating unit (EGU)—Any fossil fuel-fired boiler or turbine that serves an electrical generator with the potential to use more than fifty percent (50%) of the usable energy from the boiler or turbine to generate electricity.
- (P) Emergency standby generator—A generator operated only during times of loss of primary power at the facility that is beyond the control of the owner or operator of the facility or during routine maintenance.
- (Q) Fossil fuel—Natural gas, petroleum, coal, or any form of solid, liquid or gaseous fuel derived from such material.
- (R) Fossil fuel-fired—With regard to a unit, the combustion of fossil fuel, alone or in combination with any other fuel, where fossil fuel is projected to comprise more than fifty percent (50%) of the annual heat input.
- (S) Generator—A device that produces electricity.
- (T) Heat input—The product (expressed as million British thermal units per hour) of the gross calorific value of the fuel (expressed as British thermal units per pound) and the fuel feed rate into a combustion device (expressed as pounds per hour), as measured, recorded and reported to the department by the NO<sub>x</sub> authorized account representative and as determined by the director in accordance with this rule and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.
- (U) Nameplate capacity—The maximum electrical generating output (expressed as megawatt) that a generator can sustain over a specified period of time when not restricted by seasonal or other deratings, as listed in the National Allowance Data Base (NADB) under the data field “NAMECAP” if the generator is listed in the NADB or as measured in accordance with the United States Department of Energy standards. For generators not listed in the NADB, the nameplate capacity shall be used.
- (V) NO<sub>x</sub> allowance—An authorization by the department under the NO<sub>x</sub> trading program to emit one (1) ton of NO<sub>x</sub> during the control period of the specified year or of any year thereafter.
- (W) NO<sub>x</sub> allowance tracking system—The system by which the director records allocations, deductions and transfers of NO<sub>x</sub> allowances under the NO<sub>x</sub> trading program.
- (X) NO<sub>x</sub> allowance transfer deadline—Close of business on December 31 following the control period or, if December 31 is not a business day, close of business on the first business day thereafter and is the deadline by which NO<sub>x</sub> allowances may be submitted for recording in an affected unit’s compliance account, or the overdraft account of the installation where the unit is located.
- (Y) NO<sub>x</sub> authorized account representative—The person who is authorized by the owners or operators of the unit to represent and legally bind each owner and operator in matters pertaining to the NO<sub>x</sub> trading program.
- (Z) NO<sub>x</sub> emissions limitation—For an affected unit, the tonnage equivalent of the NO<sub>x</sub> emissions rate available for compliance deduction for the unit and for a control period adjusted by any deductions of such NO<sub>x</sub> allowances to account for actual utilization for the control period or to an account for excess emissions for a prior control period or to account for withdrawal from the NO<sub>x</sub> trading program or for a change in regulatory status for an affected unit.

- (AA) NO<sub>x</sub> emission rate—The amount of NO<sub>x</sub> emitted by a combustion unit in pounds per million British thermal units of heat input as recorded by monitoring devices approved in section (5) of this rule.
- (BB) NO<sub>x</sub> opt-in unit—An EGU whose owner or operator has requested to become an affected unit under the NO<sub>x</sub> trading program and has been approved by the department.
- (CC) NO<sub>x</sub> unit—Any fossil fuel-fired stationary boiler, combustion turbine, internal combustion engine or combined cycle system.
- (DD) Opt-in—To voluntarily become an affected unit under the NO<sub>x</sub> trading program.
- (EE) Overdraft account—The NO<sub>x</sub> allowance tracking system account established by the director for each NO<sub>x</sub> authorized account representative.
- (FF) Passenger tire equivalent (PTE)—The weight of waste tires or parts of waste tires equivalent to the average weight of one (1) passenger tire. The average weight of one (1) passenger tire is equal to twenty (20) pounds.
- (GG) Peaking combustion unit—A combustion turbine normally reserved for operation during the hours of highest daily, weekly, or seasonal loads.
- (HH) Serial number—When referring to NO<sub>x</sub> allowances, the unique identification number assigned to each NO<sub>x</sub> allowance.
- (II) Tire-derived fuel—The end product of a process that converts whole scrap tires into a specific chipped form capable of being used as fuel.
- (JJ) Unit load—The total output of a unit in any control period produced by combusting a given heat input of fuel expressed in terms of the total electrical generation (expressed as megawatt) produced by the unit including generation for use within the plant, and/or in the case of a unit that uses heat input for purposes other than electrical generation, the total steam flow (lb/hr) produced by the unit, including steam for use by the unit.
- (KK) Unit operating day—A calendar day in which a unit combusts any fuel.
- (LL) Unit operating hour or hour of unit operation—Any hour or fraction of an hour during which a unit combusts fuel.
- (MM) Utilization—The heat input (ex-pressed as million British thermal units per hour) for a unit.

(3) General Provisions.

- (A) NO<sub>x</sub> Emissions Limitations. Beginning May 1, 2004, the following NO<sub>x</sub> emission rates shall apply:
  - 1. EGUs located in the counties of Bollinger, Butler, Cape Girardeau, Carter, Clark, Crawford, Dent, Dunklin, Gasconade, Iron, Lewis, Lincoln, Madison, Marion, Mississippi, Montgomery, New Madrid, Oregon, Pemiscot, Perry, Phelps, Pike, Ralls, Reynolds, Ripley, St. Charles, St. Francois, Ste. Genevieve, Scott, Shannon, Stoddard, Warren, Washington and Wayne, shall limit emissions of NO<sub>x</sub> to the more stringent of a rate of 0.25 lbs NO<sub>x</sub>/million British thermal units per hour (mmBtu) of heat input during the control period or any applicable permitted NO<sub>x</sub> limitation under 10 CSR 10-6.060.
  - 2. EGUs located in the City of St. Louis and the counties of Franklin, Jefferson and St. Louis shall limit emissions of NO<sub>x</sub> to the more stringent

rate of 0.18 lbs NO<sub>x</sub>/mmBtu of heat input during the control period, or any applicable permitted NO<sub>x</sub> limitation under 10 CSR 10-6.060. For the purpose of calculating ERCs under subparagraph (3)(B)5.C. of this rule, the regulated NO<sub>x</sub> emission rate (NO<sub>x</sub>ER<sub>r</sub>) for units located in these areas shall be 0.25 lbs NO<sub>x</sub>/mmBtu.

3. EGUs located in the counties of Buchanan, Jackson, Jasper, or Randolph shall limit emissions of NO<sub>x</sub> to the more stringent rate of any applicable permitted NO<sub>x</sub> limitation under 10 CSR 10-6.060 or the less stringent of:
  - A. 0.35 lbs NO<sub>x</sub>/mmBtu of heat input during the control period; or
  - B. 0.68 lbs NO<sub>x</sub>/mmBtu of heat input during the control period, provided that the unit is a cyclone EGU and burns tire-derived fuel in a quantity of at least one hundred thousand (100,000) PTEs per year. For installations with multiple cyclone EGUs, compliance with the one hundred thousand (100,000) PTE burned per year may also be based on the average number of PTEs burned per cyclone EGU.
4. EGUs located in any county not identified in paragraph (3)(A)1., (3)(A)2., or (3)(A)3. of this rule shall limit emissions of NO<sub>x</sub> to the more stringent of a rate of 0.35 lbs NO<sub>x</sub>/mmBtu of heat input during the control period or any applicable permitted NO<sub>x</sub> limitation under 10 CSR 10-6.060.
5. In lieu of complying with the applicable emission limitations in paragraph (3)(A)1. through (3)(A)4. of this rule, any affected unit may comply through the NO<sub>x</sub> emissions trading program under subsection (3)(B) of this rule.

(B) NO<sub>x</sub> Emissions Trading Program.

1. NO<sub>x</sub> authorized account representative. The NO<sub>x</sub> authorized account representative shall have the responsibilities and meet the requirements identified in this subsection.
  - A. Each affected unit shall have only one NO<sub>x</sub> authorized account representative with respect to all matters under the NO<sub>x</sub> trading program. Each affected unit may have only one (1) alternate NO<sub>x</sub> authorized account representative who may act on behalf of the NO<sub>x</sub> authorized account representative.
  - B. A NO<sub>x</sub> authorized account representative may be responsible for multiple units at an installation or within a system of installations with the same owner.
  - C. The department will act on a valid submission made on behalf of owners or operators of an affected unit only if the submission has been made, signed and certified by the NO<sub>x</sub> authorized account representative or the alternate NO<sub>x</sub> authorized account representative.
  - D. Each unit must submit an account certificate of representation no later than January 1, 2004 or December 31 of the year in which the rule becomes applicable for units installed after January 1, 2004.
2. NO<sub>x</sub> allowance tracking system.

- A. NO<sub>x</sub> allowance tracking system accounts. The department will establish one (1) compliance account for each NO<sub>x</sub> unit and one (1) overdraft account for each NO<sub>x</sub> authorized account representative with one (1) or more NO<sub>x</sub> units. Allocations of NO<sub>x</sub> allowances pursuant to paragraphs (3)(B)3. or (3)(B)10. of this rule and deductions or transfers of NO<sub>x</sub> allowances pursuant to paragraphs (3)(B)3., (3)(B)7., (3)(B)9., or (3)(B)10. of this rule will be recorded in the compliance accounts or overdraft accounts.
  - B. Establishment of accounts.
    - (I) Compliance accounts and overdraft accounts. Upon receipt of a complete account certificate of representation, the department will establish—
      - (a) A compliance account for each affected NO<sub>x</sub> unit for which the account certificate of representation was submitted; and
      - (b) An overdraft account for each NO<sub>x</sub> authorized account representative for which the account certificate of representation was submitted.
    - (II) Account identification. The department will assign a unique identifying number to each compliance account and each overdraft account.
  - C. Recording of NO<sub>x</sub> allowance allocations.
    - (I) The department will record the NO<sub>x</sub> allowances for the 2004 control period in the NO<sub>x</sub> units' compliance accounts.
    - (II) Serial numbers for allocated NO<sub>x</sub> allowances. The department will assign each NO<sub>x</sub> allowance a unique identification number that will include digits identifying the year for which the NO<sub>x</sub> allowance is allocated.
3. NO<sub>x</sub> allowances.
- A. Projected NO<sub>x</sub> allowances.
    - (I) By March 1, 2004, the NO<sub>x</sub> authorized account representative for each affected unit shall submit to the department a report containing the following:
      - (a) The projected control period NO<sub>x</sub> emission rate for each affected unit;
      - (b) The average of the three (3) most recent control period heat inputs, unless those three (3) periods are not representative of normal operation; and
      - (c) A plan identifying the methodology for compliance with subsection (3)(A) of this rule.
    - (II) The department will review each report and make any amendments within fifteen (15) working days.
    - (III) The department will develop a summary of projected NO<sub>x</sub> allowances on a unit by unit and statewide basis for distribution on or before May 1 of each year using Equation 1 of this rule.

Equation 1:

$$\frac{HI_p \times ER_p}{2000} = NO_xAL_p$$

where:

$HI_p$  = the projected control period heat input for each  $NO_x$  unit;

$ER_p$  = the projected control period emission rate for each  $NO_x$  unit; and

$NO_xAL_p$  = the projected  $NO_x$  allowance for each  $NO_x$  unit rounded down to the nearest ton (in tons).

B. Control period  $NO_x$  allowances.

(I) By October 31 following each control period, each  $NO_x$  authorized account representative shall submit to the department the actual total control period heat input and actual average emission rate in a compliance report consistent with requirements of section (4) of this rule for each affected  $NO_x$  unit.

(II) By November 15 following each control period, the department will issue a notice to each  $NO_x$  authorized account representative of the actual  $NO_x$  allowances recorded in the unit compliance account for each affected  $NO_x$  unit using Equation 2 of this rule.

Equation 2:

$$\frac{HI_a \times ER_r}{2000} = NO_xAL_a$$

where:

$HI_a$  = the actual control period heat input for each  $NO_x$  unit;

$ER_r$  = the allowable control period emission rate for each  $NO_x$  unit as determined in paragraphs (3)(A)1. through (3)(A)4. of this rule; and

$NO_xAL_a$  = the actual  $NO_x$  allowance for each unit for the control period rounded down to the nearest ton (in tons).



4. Compliance. By the end of the NO<sub>x</sub> allowance transfer deadline, each NO<sub>x</sub> unit shall have sufficient NO<sub>x</sub> allowances in their compliance account to allow for the deductions in subparagraph (3)(B)4.B. of this rule.
- A. NO<sub>x</sub> allowance transfer deadline. The NO<sub>x</sub> allowances are available to be deducted for compliance with a unit's NO<sub>x</sub> emissions limitation for a control period in a given year only if the NO<sub>x</sub> allowances—
- (I) Were allocated for a control period in a prior year or the same year; and
  - (II) Are held in the unit's compliance account or the unit's overdraft account as of the NO<sub>x</sub> allowance transfer deadline for that control period.
- B. Deductions for compliance.
- (I) The director will deduct NO<sub>x</sub> allowances to cover the unit's NO<sub>x</sub> emissions for the control period—
    - (a) From the compliance account; and
    - (b) Only if no more NO<sub>x</sub> allowances available under subparagraph (3)(B)4.A. of this rule remain in the compliance account, from the overdraft account. In deducting allowances for units from the overdraft account, the director will begin with the unit having the compliance account with the lowest NO<sub>x</sub> Allowance Tracking System account number and end with the unit having the compliance account with the highest NO<sub>x</sub> Allowance Tracking System account number.
  - (II) The director will deduct NO<sub>x</sub> allowances until the number of NO<sub>x</sub> allowances deducted for the control period equals the number of tons of NO<sub>x</sub> emissions, determined in accordance with part (3)(B)4.B.(III) of this rule, from the unit for the control period for which compliance is being determined; or until no more NO<sub>x</sub> allowances available under subparagraph (3)(B)4.A. of this rule remain in the respective account.
  - (III) For a NO<sub>x</sub> unit that is allocated NO<sub>x</sub> allowances under part (3)(B)3.B.(II) of this rule for a control period, the department will deduct NO<sub>x</sub> allowances under subparagraph (3)(B)4.B. or (3)(B)4.E. of this rule to account for the actual utilization of the unit during the control period. The department will calculate the number of NO<sub>x</sub> allowances to be deducted to account for the unit's actual utilization using Equation 3 of this rule.

Equation 3:

$$\sum HI_a \times ER_a = NO_x AL_d$$

where:

$HI_a$  = the actual control period heat input for each  $NO_x$  unit;

$ER_a$  = the actual control period emission rate for each  $NO_x$  unit; and

$NO_xAL_d$  = the number of  $NO_x$  allowances that will be deducted from each  $NO_x$  unit's compliance account (rounded down to the nearest allowance).

C. Identification of  $NO_x$  allowances by serial number.

(I) The  $NO_x$  authorized account representative may identify by serial number the  $NO_x$  allowances to be deducted from the unit's compliance account under subparagraph (3)(B)4.B., (3)(B)4.D., or (3)(B)4.E. of this rule. Such identification will be made in the compliance certification report submitted in accordance with paragraph (4)(A)1. of this rule.

(II) The staff director will deduct  $NO_x$  allowances for a control period from the compliance account, in the absence of an identification or in the case of a partial identification of  $NO_x$  allowances by serial number under part (3)(B)4.C.(I) of this rule, or the overdraft account in the following order:

- (a) Those  $NO_x$  allowances that were allocated for the control period to the unit under part (3)(B)3.B.(II) of this rule;
- (b) Those  $NO_x$  allowances that were allocated for the control period to any unit and transferred and recorded in the account pursuant to paragraphs (3)(B)7. and (3)(B)8. of this rule, in order of their date of recording;
- (c) Those  $NO_x$  allowances that were allocated for a prior control period to the unit under part (3)(B)3.B.(II) of this rule; and
- (d) Those  $NO_x$  allowances that were allocated for a prior control period to any unit and transferred and recorded in the account pursuant to paragraphs (3)(B)7. and (3)(B)8. of this rule, in order of their date of recording.

D. Deductions for units sharing a common stack. In the case of units sharing a common stack and having emissions that are not separately monitored or apportioned in accordance with section (4) of this rule—

(I) The  $NO_x$  authorized account representative of the units shall identify the percentage of  $NO_x$  allowances to be deducted from each such unit's compliance account to

- cover the unit's share of NO<sub>x</sub> emissions from the common stack for a control period. Such identification shall be made in the compliance certification report submitted in accordance with paragraph (4)(A)1. of this rule.
- (II) Notwithstanding part (3)(B)4.B.(II) of this rule, the director will deduct NO<sub>x</sub> allowances for each unit until the number of NO<sub>x</sub> allowances deducted equals the unit's identified percentage (under part (3)(B)4.D.(I) of this rule) of the number of tons of NO<sub>x</sub> emissions, as determined in accordance with section (4) of this rule, from the common stack for the control period for which compliance is being determined or, if no percentage is identified, an equal percentage for each unit, plus the number of allowances required for deduction to account for actual utilization under subparagraph (4)(A)1.G. of this rule for the control period.
- E. The director will record in the appropriate compliance account or overdraft account all deductions from such an account pursuant to subparagraphs (3)(B)4.B. and (3)(B)4.D. of this rule.
5. Banking.
- A. NO<sub>x</sub> allowances may be banked for future use or transfer into a compliance account or an overdraft account, as follows:
- (I) Any NO<sub>x</sub> allowance that is held in a compliance account or an overdraft account, will remain in such account until the NO<sub>x</sub> allowance is deducted or transferred under paragraphs (3)(B)4., (3)(B)5., (3)(B)6., or (3)(B)7. of this rule.
- (II) The director will designate, as a banked NO<sub>x</sub> allowance, any NO<sub>x</sub> allowance that remains in a compliance account or an overdraft account after the director has made all deductions for a given control period from the compliance account or overdraft account pursuant to paragraph (3)(B)4. of this rule.
- B. Each year, starting in 2005, after the director has completed the designation of banked NO<sub>x</sub> allowances under part (3)(B)5.A.(II) of this rule and before May 1 of the year, the department will determine the extent to which banked NO<sub>x</sub> allowances may be used for compliance in the control period for the current year, as follows:
- (I) The director will determine the total number of banked NO<sub>x</sub> allowances held in compliance accounts or overdraft accounts.
- (II) If the total number of banked NO<sub>x</sub> allowances determined, under part (3)(B)5.B.(I) of this rule, to be held in compliance accounts or overdraft accounts is less than or equal to ten percent (10%) of the sum of the NO<sub>x</sub> trading program allocations for the previous control period, any

- banked NO<sub>x</sub> allowance may be deducted for compliance in accordance with paragraph (3)(B)4. of this rule.
- (III) If the total number of banked NO<sub>x</sub> allowances determined, under part (3)(B)5.B.(I) of this rule, and held in compliance accounts or overdraft accounts exceeds ten percent (10%) of the sum of the state trading program allocations for the previous control period, any banked allowance may be deducted for compliance in accordance with paragraph (3)(B)4. of this rule, except as follows:
- (a) The director will determine the adjustment factor using Equation 4 of this rule.

Equation 4:

$$AF = \frac{0.1 \times \Sigma NO_x AL_a}{\Sigma NO_x AL_b}$$

where:

AF = the adjustment factor;

$\Sigma NO_x AL_a$  = the sum of the statewide NO<sub>x</sub> allowance allocated for the previous control period; and

$\Sigma NO_x AL_b$  = the sum of the banked NO<sub>x</sub> allowances as determined under part (3)(B)5.B.(I) of this rule on January 1 of the current year;

- (b) The director will determine the number of banked NO<sub>x</sub> allowances in the account that may be deducted for compliance in accordance with paragraph (3)(B)4. of this rule using Equation 5 of this rule. Any banked NO<sub>x</sub> allowances in excess of the product of Equation 5 may be deducted for compliance in accordance with paragraph (3)(B)4. of this rule, except that, if such NO<sub>x</sub> allowances are used to make a deduction, two (2) such NO<sub>x</sub> allowances must be deducted for each deduction of one (1) NO<sub>x</sub> allowance required under paragraph (3)(B)4. of this rule.

Equation 5:

$$AF \times NO_x AL_b$$

where

AF = the adjustment factor calculated in Equation 4; and

$NO_x AL_b$  = the number of NO<sub>x</sub> allowances

in a NO<sub>x</sub> unit's account;

- (IV) Geographic flow control.
  - (a) Banked NO<sub>x</sub> allowances made available for use in parts (3)(B)5.B.(II) and (3)(B)5.B.(III) of this rule may be traded on a one to one (1:1) basis unless otherwise specified in subparts (3)(B)5.B.(IV)(b) and (3)(B)5.B.(IV)(c) of this rule.
  - (b) Banked NO<sub>x</sub> allowances made available for use in parts (3)(B)5.B.(II) and (3)(B)5.B.(III) of this rule may be traded from the control region for which paragraphs (3)(A)3. and (3)(A)4. of this rule are applicable to the control region for which paragraph (3)(A)1. of this rule is applicable on a one and one-half to one (1.5:1) basis.
  - (c) Banked NO<sub>x</sub> allowances made available for use in part (3)(B)5.B.(II) and (3)(B)5.B.(III) of this rule may be traded from the control region for which paragraphs (3)(A)1., (3)(A)3. and (3)(A)4. of this rule are applicable to the control region for which paragraph (3)(A)2. of this rule is applicable on a one and one-half to one (1.5:1) basis.

C. Early reductions. For any affected NO<sub>x</sub> unit that reduces its NO<sub>x</sub> emission rate in the 2000, 2001, 2002 or 2003 control period, the owner or operator of the unit may request early reduction credits, and the department will allocate ERCs by January 31 of each year to the unit in accordance with the following requirements.

- (I) Each NO<sub>x</sub> unit for which the owner or operator requests any ERCs under part (3)(B)5.C.(IV) of this rule shall monitor NO<sub>x</sub> emissions in accordance with section (4) of this rule for each control period for which such ERCs are requested. The unit's monitoring system availability shall be not less than ninety percent (90%) during the control period, and the unit must not have been found to be in violation of any applicable state or federal emissions or emissions-related requirements.
- (II) NO<sub>x</sub> emission rate and heat input under parts (3)(B)5.C.(III) through (3)(B)5.C.(V) of this rule shall be determined in accordance with section (4) of this rule.
- (III) Each NO<sub>x</sub> unit for which the owner or operator requests any ERCs under part (3)(B)5.C.(IV) of this rule shall reduce its NO<sub>x</sub> emission rate, for each control period for which ERCs are requested, to less than the applicable requirement of subsection (3)(A) of this rule.
- (IV) The NO<sub>x</sub> authorized account representative of a NO<sub>x</sub> unit that meets the requirements of parts (3)(B)5.C.(I) and (3)(B)5.C.(III) of this rule may submit to the department a

request for ERCs for the unit based on NO<sub>x</sub> emission rate reductions made by the unit in the control period for 2000, 2001, 2002 or 2003 in accordance with part (3)(B)5.C.(III) of this rule.

- (a) In the ERC request, the NO<sub>x</sub> authorized account representative may request ERCs for such control period using Equation 6 of this rule.

Equation 6:

$$\text{ERC} = \text{HI}_a \times (\text{NO}_x\text{ER}_r - \text{NO}_x\text{ER}_a) \div 2000$$

where:

ERC = the ERCs accrued rounded down to the nearest ton of NO<sub>x</sub>;

HI<sub>a</sub> = the actual control period heat input for each NO<sub>x</sub> unit;

NO<sub>x</sub>ER<sub>r</sub> = the regulated NO<sub>x</sub> emission rate as identified in paragraphs (3)(A)1. through (3)(A)4. of this rule; and

NO<sub>x</sub>ER<sub>a</sub> = the actual control period emission rate for each NO<sub>x</sub> unit.

- (b) The ERC request must be submitted, in a format specified by the department, by October 31 of the year in which the NO<sub>x</sub> emission rate reductions are made.
- (V) The department will allocate NO<sub>x</sub> allowances no later than January 31 to NO<sub>x</sub> units meeting the requirements of parts (3)(B)5.C.(I) and (3)(B)5.C.(III) of this rule and covered by early reduction requests meeting the requirements of subpart (3)(B)5.C.(IV)(b) of this rule.
- (VI) NO<sub>x</sub> allowances recorded under part (3)(B)5.C.(V) of this rule may be deducted for compliance under paragraph (3)(B)3. of this rule for the control periods in 2004 or 2005. Notwithstanding subparagraph (3)(B)5.A. of this rule, the director will deduct as retired any NO<sub>x</sub> allowance that is recorded under part (3)(B)5.C.(V) of this rule and is not deducted for compliance in accordance with paragraph (3)(B)3. of this rule for the control period in 2004 or 2005.
- (VII) NO<sub>x</sub> allowances recorded under part (3)(B)5.C.(V) of this rule are not treated as banked allowances in 2005 for the purposes of subparagraphs (3)(B)5.A. and (3)(B)5.B. of this rule.
- (VIII) Compliance set-aside account.

- (a) The department will establish a compliance set-aside account, which will contain fifty percent (50%) of the ERCs, rounded down to the nearest ton, that are issued in accordance with part (3)(B)5.C.(II) of this rule.
- (b) Fifty percent (50%) of the ERCs, rounded down to the nearest ton, in the compliance set-aside account will be sold to the NO<sub>x</sub> authorized account representatives that apply for the ERCs and can demonstrate that the ERCs will be used for compliance by a unit that is in a research, development or trial stage for new air pollution control technology. If less than fifty percent (50%) of the ERCs are needed for these units, the remainder will be sold in accordance with subpart (3)(B)5.C.(VIII)(c) of this rule.
- (c) The remaining ERCs in the compliance set-aside account will be sold in the order of request.
- (d) NO<sub>x</sub> authorized account representatives must request all of the ERCs needed from the compliance set-aside account for the 2004 and 2005 control periods by February 28, 2004. The request for ERCs shall include the following information:
  - I. The owner and operator;
  - II. The NO<sub>x</sub> authorized account representative;
  - III. The NO<sub>x</sub> unit identification number and name;
  - IV. The number of ERCs being requested; and
  - V. The overdraft or compliance account number.
- (e) The department shall set the market rate for ERCs by February 1, 2004. Market rate shall not be set at a value below five hundred dollars (\$500) per ERC nor in excess of one thousand dollars (\$1,000) per ERC, and shall be established based on the following in the order listed:
  - I. The average rate of exchange of NO<sub>x</sub> credits and ERCs in the Missouri NO<sub>x</sub> Emissions Trading Program; and
  - II. The most recent control cost data available.
- (f) The department shall notify the successful purchasers of ERCs by April 1, 2004 and payment shall be made by the purchaser to the sellers by April 15, 2004 for ERCs purchased. Once payment has been received by the sellers, they shall notify the department and the appropriate ERCs shall be

transferred to the appropriate account by May 1, 2004.

- (g) The ERCs will be sold from the compliance set-aside account on a percentage basis. Each purchaser will purchase a portion of each seller's ERCs.
- (h) Once the appropriate ERCs are transferred to the purchaser's account, the ERCs are non-transferrable.
- (i) Any ERC allowances remaining in the compliance set-aside account after May 1, 2004, will be returned to the unit that generated the ERCs by May 15, 2004.

(IX) All ERCs will be retired on January 31, 2006.

- 6. Account error. The director may correct any error in any NO<sub>x</sub> Allowance Tracking System account. Within ten (10) business days of making such correction, the director will notify the NO<sub>x</sub> authorized account representative for the account. The NO<sub>x</sub> authorized account representative will then have ten (10) business days to appeal the correction if they feel the correction was made in error.
- 7. NO<sub>x</sub> allowance transfers. The NO<sub>x</sub> authorized account representatives seeking the recording of a NO<sub>x</sub> allowance transfer shall submit the transfer request to the director. To be considered correctly submitted, the NO<sub>x</sub> allowance transfer shall include the following elements in a format specified by the director:
  - A. The numbers identifying both the transferor and transferee accounts;
  - B. A specification by serial number of each NO<sub>x</sub> allowance to be transferred; and
  - C. The printed name and signature of the NO<sub>x</sub> authorized account representative of the transferor account and the date signed.
- 8. Department recording.
  - A. Within five (5) business days of receiving a NO<sub>x</sub> allowance transfer, except as provided in subparagraph (3)(B)9.B. of this rule, the department will record a NO<sub>x</sub> allowance transfer by moving each NO<sub>x</sub> allowance from the transferor account to the transferee account as specified by the request, provided that—
    - (I) The transfer is correctly submitted under paragraph (3)(B)8. of this rule;
    - (II) The transferor account includes each NO<sub>x</sub> allowance identified by serial number in the transfer; and
    - (III) The transfer meets all other requirements of this paragraph.
  - B. A NO<sub>x</sub> allowance transfer that is submitted for recording following the NO<sub>x</sub> allowance transfer deadline and that includes any NO<sub>x</sub> allowances allocated for a control period prior to or the same as the control period to which the NO<sub>x</sub> allowance transfer deadline



- applies will not be recorded until after completion of the process of recording of NO<sub>x</sub> allowance allocations of this rule.
- C. Where a NO<sub>x</sub> allowance transfer submitted for recording fails to meet the requirements of subparagraph (3)(B)7. of this rule, the department will not record such transfer.
9. Notification.
- A. Notification of recording. Within five (5) business days of recording of a NO<sub>x</sub> allowance transfer under paragraph (3)(B)8. of this rule, the department will notify each NO<sub>x</sub> authorized account representative of the transfer in writing.
- B. Notification of nonrecording. Within ten (10) business days of receipt of a NO<sub>x</sub> allowance transfer that fails to meet the requirements of paragraph (3)(B)7. of this rule, the department will notify in writing the NO<sub>x</sub> authorized account representatives of both accounts subject to the transfer of—
- (I) A decision not to record the transfer; and
- (II) The reasons for such nonrecording.
10. Individual EGU opt-ins. An EGU that is not an affected unit under subsection (1)(A) of this rule that vents all of its emissions to a stack may qualify to become a NO<sub>x</sub> opt-in unit under this paragraph of this rule. A NO<sub>x</sub> opt-in unit will not be allowed to participate in the NO<sub>x</sub> trading program without prior approval.
- A. A NO<sub>x</sub> opt-in unit shall have a NO<sub>x</sub> authorized account representative.
- B. Request for initial NO<sub>x</sub> opt-in. In order to request to opt-in to the trading program, the NO<sub>x</sub> authorized account representative of the unit must submit to the department at any time the following:
- (I) The projected NO<sub>x</sub> emission rate for each affected unit;
- (II) The average of the three (3) most recent years heat input on a monthly basis over the control period for each affected unit; and
- (III) A plan detailing the methodology for compliance with paragraph (3)(B)10. of this rule.
- C. The department will review the request and respond within ninety (90) days of the date of receipt of the request.
- D. Request for opting-in to the NO<sub>x</sub> trading program must be received by the department no later than February 1 of the same year as the control period that the NO<sub>x</sub> opt-in unit requests to begin participation in the NO<sub>x</sub> trading program.
- E. The NO<sub>x</sub> opt-in units shall establish a baseline heat input and a baseline NO<sub>x</sub> emissions rate under the requirements of subsection (5)(G) of this rule. After calculating the baseline heat input and the baseline NO<sub>x</sub> emissions rate for the NO<sub>x</sub> opt-in unit, the department will notify the NO<sub>x</sub> authorized account representative of the unit of the resulting baseline.

- F. The established baseline shall be the regulated NO<sub>x</sub> emission rate for the opt-in unit. The NO<sub>x</sub> opt-in unit shall meet the same schedule as all NO<sub>x</sub> units with respect to all deadlines and schedules. The allowances issued to the opt-in unit under this paragraph shall be calculated using Equation 7 of this rule.

Equation 7:

$$\frac{HI_{opt} \times ER_{opt}}{2000} = NO_x AL_{opt}$$

where:

- HI<sub>opt</sub> = the actual control period heat input for the NO<sub>x</sub> opt-in unit;
- ER<sub>opt</sub> = the baseline emission rate for the NO<sub>x</sub> opt-in unit as determined under subsection (5)(F) of this rule; and
- NO<sub>x</sub>AL<sub>opt</sub> = the actual NO<sub>x</sub> allowances for the opt-in unit for the control period (in tons).

- G. If at any time before the approval of a NO<sub>x</sub> opt-in unit, the department determines that the unit does not qualify as a NO<sub>x</sub> opt-in unit under this paragraph, the department will issue a denial of the NO<sub>x</sub> opt-in request for the unit.
- H. Withdrawal of NO<sub>x</sub> opt-in request. A NO<sub>x</sub> authorized account representative of a unit may withdraw its request to opt-in at any time prior to the approval for the NO<sub>x</sub> opt-in unit. Once the request for a NO<sub>x</sub> opt-in unit is withdrawn, a NO<sub>x</sub> authorized account representative seeking to reapply must submit a new request for a NO<sub>x</sub> opt-in unit under this subsection.
- I. Effective date. The effective date of the initial NO<sub>x</sub> opt-in shall be May 1 of the first control period starting after the approval of the NO<sub>x</sub> opt-in unit by the department. The unit shall be a NO<sub>x</sub> opt-in unit and an affected NO<sub>x</sub> unit as of the effective date of the approval and be subject to the requirements of this rule.
- J. Change in regulatory status. When a NO<sub>x</sub> opt-in unit becomes an affected unit, the NO<sub>x</sub> authorized account representative shall notify the department in writing of such change in the NO<sub>x</sub> opt-in unit's regulatory status within thirty (30) days of such change.
- K. Withdrawal from NO<sub>x</sub> trading program. A NO<sub>x</sub> opt-in unit may withdraw from the NO<sub>x</sub> trading program if it meets the following requirements:
- (I) To withdraw from the NO<sub>x</sub> trading program, the NO<sub>x</sub> authorized account representative of a NO<sub>x</sub> opt-in unit shall submit to the department a request to withdraw effective as

- of a specified date prior to May 1 or after September 30. The submission shall be made no later than ninety (90) days prior to the requested effective date of withdrawal.
- (II) Before a NO<sub>x</sub> opt-in unit may withdraw from the NO<sub>x</sub> trading program, the following conditions must be met.
- (a) For the control period immediately before the withdrawal is to be effective, the NO<sub>x</sub> authorized account representative must submit or must have submitted to the department an annual compliance certification report.
  - (b) If the NO<sub>x</sub> opt-in unit has excess emissions for the control period immediately before the withdrawal is to be effective, the department will deduct from the NO<sub>x</sub> opt-in unit's compliance account, or the overdraft account of the affected unit where the affected unit is located, the full amount required for the control period.
- (III) A NO<sub>x</sub> opt-in unit that withdraws from the NO<sub>x</sub> trading program shall comply with all requirements under the NO<sub>x</sub> trading program concerning all years for which such NO<sub>x</sub> opt-in unit was a NO<sub>x</sub> opt-in unit, even if such requirements must be complied with after the withdrawal takes effect.
- (IV) Notification procedures shall be as follows:
- (a) After the requirements for withdrawal under this paragraph have been met, the department will issue a notification to the NO<sub>x</sub> authorized account representative of the NO<sub>x</sub> opt-in unit of the acceptance of the withdrawal of the NO<sub>x</sub> opt-in unit as of a specified effective date that is after such requirements have been met and that is prior to May 1 or after September 30.
  - (b) If the requirements for withdrawal under this paragraph have not been met, the department will issue a notification to the NO<sub>x</sub> authorized account representative of the NO<sub>x</sub> opt-in unit that the NO<sub>x</sub> opt-in unit's request to withdraw is denied. If the NO<sub>x</sub> opt-in unit's request to withdraw is denied, the NO<sub>x</sub> opt-in unit shall remain subject to the requirements for a NO<sub>x</sub> opt-in unit.
- (V) A NO<sub>x</sub> opt-in unit shall continue to be a NO<sub>x</sub> opt-in unit until the effective date of the withdrawal.
- (VI) Once a NO<sub>x</sub> opt-in unit withdraws from the NO<sub>x</sub> trading program, the NO<sub>x</sub> authorized account representative may not submit another application for the NO<sub>x</sub> opt-in unit prior to the date that is four (4) years after the date on which the withdrawal became effective.

11. Output based emissions trading of NO<sub>x</sub>. (Reserved)

(4) Reporting and Record Keeping.

(A) Reporting.

1. A compliance certification report for each affected unit subject to section (3) of this rule shall be submitted to the department by October 31 following each control period. The report shall include:
  - A. The owner and operator;
  - B. The NO<sub>x</sub> authorized account representative;
  - C. NO<sub>x</sub> unit name, compliance and overdraft account numbers;
  - D. NO<sub>x</sub> emission rate limitation (lb/mmBtu);
  - E. Actual NO<sub>x</sub> emission rate (lb/mmBtu) for the control period;
  - F. Actual heat input (mmBtu) for the control period. The unit's total heat input for the control period in each year will be determined in accordance with section (5) of this rule; and
  - G. Actual NO<sub>x</sub> mass emissions (tons) for the control period.
2. Reporting shall be based on the test methods identified in section (5) of this rule. Any unit with valid continuous emission monitoring system (CEMS) data for the control period must use that data to determine compliance with the provisions of this rule. The owner or operator for each affected unit which performs non-CEMS testing to demonstrate compliance of a unit subject to section (3) of this rule shall submit:
  - A. A control period report identifying monthly fuel usage and monthly total heat input by December 31 of the same year as the control period; and
  - B. A written report of all stack tests completed after controls are effective to the department within sixty (60) days after completion of sample and data collection.

(B) Record Keeping.

1. Each owner or operator of an affected unit subject to section (3) of this rule shall maintain records of the following:
  - A. Total fuel consumed during the control period;
  - B. The total heat input for each emissions unit during the control period;
  - C. Reports of all stack testing conducted to meet the requirements of this rule;
  - D. All other data collected by a CEMS necessary to convert the monitoring data to the units of the applicable emission limitation;
  - E. All performance evaluations conducted in the past year;
  - F. All monitoring device calibration checks;
  - G. All monitoring system, monitoring device and performance testing measurements;
  - H. Records of adjustments and maintenance performed on monitoring systems and devices; and
  - I. A log identifying each period during which the CEMS or alternate procedure was inoperative, except for zero and span checks, and

the nature of the repairs and adjustments performed to make the system operative.

2. All records must be kept on-site for a period of five (5) years and made available to the department upon request.
3. Each owner or operator of any gas- or oil-fired unit that qualifies for the low-emitter exemption in paragraph (1)(B)1. of this rule or the low hours of operation exemption in paragraph (1)(B)2. of this rule, shall maintain records of the total operating hours during which fuel is consumed for each emission unit during the control period. In the event that another record keeping schedule has been previously approved for the EGU and is included as an operating permit condition, the EGU may use that schedule to comply with this requirement.

(5) Test Methods and Monitoring. For units subjects to this rule, the following requirements shall apply:

- (A) Compliance shall be measured during the control period;
- (B) All valid data shall be used for calculating NO<sub>x</sub> emissions rates;
- (C) Coal-Fired Units. Any coal-affected unit subject to this rule shall install, certify, operate, maintain, and quality assure a NO<sub>x</sub> and diluent CEMS pursuant to the requirements in 40 CFR part 75;
- (D) Non-Exempt Peaking Units. Any gas- or oil-fired peaking unit that is subject to the emission limitation or trading aspects of this rule shall:
  1. Install, certify, operate, maintain, and quality assure a NO<sub>x</sub> and diluent CEMS; or
  2. Install, certify, operate, and quality assure fuel-metering equipment pursuant to 40 CFR part 75, Appendix D and shall establish a NO<sub>x</sub>-to-load curve pursuant to 40 CFR part 75, Appendix E;
- (E) Exempt Units.
  1. The following hierarchy of methods may be used to determine if a unit qualifies for the low-emitter exemption in paragraph (1)(B)1. of this rule. If data is not available for an emission estimation method or an emission estimation method is impractical for a source, then the subsequent emission estimation method should be used in its place:
    - A. CEMS as specified in 10 CSR 10-6.110;
    - B. Stack tests as specified in 10 CSR 10-6.110;
    - C. Material/mass balance;
    - D. AP-42 (Environmental Protection Agency (EPA) Compilation of Emission Factors) or FIRE (Factor Information and Retrieval System) (as updated);
    - E. Other EPA documents as specified in 10 CSR 10-6.110;
    - F. Sound engineering calculations; or
    - G. Facilities shall obtain department pre-approval of emission estimation methods other than those listed in subparagraphs (5)(E)1.A. through (5)(E)1.F. of this rule before using such method to estimate emissions. In the event that such method has previously been approved for the EGU and included as an

operating permit condition, the EGU may use that method to comply with this requirement.

2. Any gas- or oil-fired unit that qualifies for the low-emitter exemption in paragraph (1)(B)1. or the low hours of operation exemption in paragraph (1)(B)2. shall install and operate a non-resettable hour meter or determine the hours of operation for each emission unit during the control period. In the event that another monitoring method has previously been approved for the EGU and included as an operating permit condition, the EGU may use that method to comply with this requirement.

- (F) Opt-In Units. Any unit that opts into the trading program, pursuant to paragraph (3)(B)10., shall be monitored consistent with the provisions of subsections (5)(D) and (5)(E) above. For the purpose of establishing the baseline allowance allocation, an opt-in unit shall install, certify, operate, maintain, and quality assure the monitoring device(s) and collect data for at least one (1) control season prior to submission of an opt-in application.